

# **Supervisory Aerospace Engineer, GS- 0861-15**

## **AST- Aerospace Flight Systems, NCC: 725-12**

**Position Number:** GS04E80

**Introductory Statement:** The work involves defining operational requirements, researching, developing, performing analysis, integrating, and evaluating aerospace and aeronautical flight systems, vehicles, and payloads as a part of the development of some or all aspects of flight systems or projects. Duties may also include monitoring contractors engaged in this work. The following major duty areas comprise tasks and duties directly related to AST-Aerospace Flight Systems work, NCC 725-12, as described in the AST Definition for that specialty level. The specialty knowledge described in the definition is needed to perform the duties of this job in addition to the knowledge described below.

Formulation Manager (FM), the incumbent is responsible for all project Formulation and Approval processes for a particular project. This may include a single formulation effort or multiple formulation efforts in parallel. The FM is also responsible for financial and acquisition management, risk management, performance management, safety and mission assurance, schedule, and technical performance of the project. The FM successfully accomplishes the projects from formulation through approval for implementation, and ensures customer satisfaction with the products delivered. The FM forms the project team that will be composed of a diverse group of individuals that represent science, engineering, technologist, financial, quality, and procurement. The FM is knowledgeable in all these areas and call on experts throughout the Agency to assist in activities leading to project success. The FM works in concert with the program manager, focusing on the day-to-day execution of the project by industrial contractors, universities, NASA personnel, other government agencies, etc. The FM keeps the customer and all levels of GSFC management informed through the appropriate reporting structure. The FM ensures that the products and services from the project will meet the customer needs. It is imperative that both FM and program manager be mutually supporting and empower each to do their function with frequent and open communication. The FM presents project information developed in formulation to management, customers and partners. This information consists of a Project Plan and supporting information. With project approval, the FM ensures the smooth transition of project responsibility to the implementing organization. The FM performs his/her responsibilities within the scope of NPG 7120.5A, GPC 7120.5.2 and 710-PG-7120.5.2.

### **Aerospace Engineering Project Management Work 40%**

Manages overall development efforts for a significant end product or a major subject-matter entity of extensive scope and variety, such as all electronic and electrical systems for a variety of manned spacecraft. Makes substantial and continuing contribution to long-range project planning and to the formulation, modification, and determination of overall objectives. Serves as an authoritative source of information for decisions and guidance concerning changes in program objectives relating to the management of the total project effort. Coordinates with other offices within the project to establish content, cost, schedule of products, deliverables, and services. Interacts with senior management to formulate agreements and plans for institutional support of project activities.

### **Aerospace Engineering Project Planning Work 35%**

Serves as expert aerospace engineering consultant in the planning, monitoring, and

administration of projects of national or international significance, characterized by constantly, and sometimes greatly changing physical environment, critical problems, or other similar variables and unknowns. Provides overall technical insight into the development and management of policies, procedures, and operational schedules necessary for new systems and functions in areas such as fluid and flight mechanics. Performs pre-project planning duties, such as concept development, master integration planning, and programming design for projects, taking into account feasibility, costs, and economics.

#### **Supervisory and/or Managerial Responsibilities 25%**

Supervises a group of employees performing work at the GS-14 level. Provides administrative and technical supervision necessary for accomplishing the work of the unit.

Performs the administrative and human resource management functions relative to the staff supervised. Establishes guidelines and performance expectations for staff members, which are clearly communicated through the formal employee performance management system. Observes workers' performance; demonstrates and conducts work performance critiques. Provides informal feedback and periodically evaluates employee performance. Resolves informal complaints and grievances. Develops work improvement plans, recommending personnel actions as necessary. Provides advice and counsel to workers related to work and administrative matters. Effects disciplinary measures as appropriate to the authority delegated in this area. Reviews and approves or disapproves leave requests. Assures that subordinates are trained and fully comply with the provisions of the safety regulations.

The incumbent is responsible for furthering the goals of equal employment opportunity (EEO) by taking positive steps to assure the accomplishment of affirmative action objectives and by adhering to nondiscriminatory employment practices in regard to race, color, religion, sex, national origin, age, or handicap. Specifically, incumbent initiates nondiscriminatory practices and affirmative action for the area under his/her supervision in the following: (1) merit promotion of employees and recruitment and hiring of applicants; (2) fair treatment of all employees; (3) encouragement and recognition of employee achievements; (4) career development of employees; and (5) full utilization of their skills.

#### **OTHER SIGNIFICANT FACTS:**

In order to qualify for this position, incumbent must possess a bachelor's degree appropriate to the position.

Performs other duties as assigned.

Reviews and evaluates the contractor's progress related to expenditures, and recommends approval/disapproval for payment as appropriate.

Complies with export control regulations.

#### **Factor 1- 9 Knowledge Required by the Position**

Mastery of a range of specialized areas in aerospace engineering sufficient to originate concepts and effect new developments applicable to emerging functions of a national magnitude and with long-term purposes. Typically, this position is recognized as a national or international expert in a specialized area of aerospace engineering.

#### **Factor 2- 5 Supervisory Controls**

The supervisor provides guidance solely in the form of general legislative, mission, or policy directions and resource constraints. The engineer typically initiates new projects or activities independently and keeps the supervisor informed of progress in planning, coordinating, and implementing the work and resolving conflicts. Recommendations and decisions of the engineer are accepted as technically sound even though final approval may depend on formal action by high-level management. The engineer has the highest degree of independence in seeking optimum technical or policy solutions to problems in the light of current engineering developments. Completed work is broadly reviewed for adherence to mission or legislative direction and for assurance that broad policy or program objectives are fulfilled.

### **Factor 3- 5 Guidelines**

Guidelines are basic legislation and/or broadly stated agency regulations and policy statements. At this level the engineer is a recognized technical authority in the interpretation of such broad guidelines, and must exercise considerable judgment and ingenuity in interpreting and adapting guides that exist; in developing new and improved hypotheses, concepts, or approaches not previously tested or reported; and/or in developing new policies that have the potential to take the organization (and the affected public) in new directions. The ideas, methods and procedures developed are on the cutting edge of technology and often serve as precedents for other scientists, engineers, or policy-makers within or outside the agency.

### **Factor 4- 6 Complexity**

Work is characterized by broad and intensive efforts involving several kinds of problems where the controlling theory and practices are largely undefined, or where the engineering methods and practices are in a state of development or are extensively affected by advances in technology. Projects involve the full range of situations pertinent to various environments, requiring the development of new or refined methods and application of advanced technology. They may be of such scope and complexity that they require supportive projects, some of which are nonscientific in nature.

### **Factor 5- 6 Scope and Effect**

The purpose of the work is to plan, develop, and execute major programs, projects, or activities for the agency which are usually of national scope and significance. Engineers often serve as experts or consultants to top level managers within the organization or to a broad consortium of experts and special interest groups who are seeking critical evaluations on problems that require long-range solutions. Actions and recommendations affect broad agency policies, programs and legislative proposals, or have an equivalent effect on other scientifically oriented agencies and organizations on a continuing basis.

### **Factor 6- 4 Personal Contacts**

Contacts are with high ranking officials from outside the agency at national levels in highly unstructured settings.

### **Factor 7- 4 Purpose of Contacts**

The purpose of contacts is to justify, defend, negotiate, or settle controversial and far-reaching matters through active participation in conferences, meetings or presentations. The persons contacted typically have diverse viewpoints, goals, or objectives, requiring the engineer to achieve a common understanding of the problem and a satisfactory solution by convincing others, arriving at a compromise, or developing suitable alternatives.

### **Factor 8- 1 Physical Demands**

The work is primarily sedentary, although some physical effort may be required, e.g., walking,

standing, carrying light items such as manuals or briefcases, or driving or traveling by motor vehicle.

### **Factor 9- 1 Work Environment**

The work environment involves everyday risks or discomforts that require normal safety precautions typical of such places as offices, training rooms, and libraries. The work area is adequately lighted, heated, and ventilated. There may be occasional exposure to moderate risks or discomforts in storage areas or hazardous waste sites.

### **SUPERVISORY FACTORS:**

#### **Factor 1- 3 Program Scope and Effect**

Directs a program segment that performs technical, administrative, protective, investigative, or professional work. The program segment and work directed typically have coverage which encompasses a major metropolitan area, a State, or a small region of several States; or when most of an area's taxpayers or businesses are covered, coverage comparable to a small city. Providing complex administrative or technical or professional services directly affecting a large or complex multi-mission military installation also falls at this level. Activities, functions, or services accomplished directly and significantly impact a wide range of agency activities, the work of other agencies, or the operations of outside interests (e.g., a segment of a regulated industry), or the general public. At the field activity level (involving large, complex, multi-mission organizations and/or very large serviced populations) the work directly involves or substantially impacts the provision of essential support operations to numerous, varied, and complex technical, professional, and administrative functions.

#### **Factor 2- 3 Organizational Setting**

The position is accountable to a position that is SES level, or equivalent or higher level; or to a position which directs a substantial GS-15 or equivalent level workload; or to a position which directs work through GS-15 or equivalent subordinate supervisors, officers, contractors, or others.

#### **Factor 3- 3 Supervisory/Managerial Authority Exercised**

Exercises delegated managerial authority to set a series of annual, multi-year, or similar types of long-range work plans and schedules for in-service or contracted work. Assures implementation (by lower and subordinate organizational units or others) of the goals and objectives for the program segment(s) or function(s) they oversee. Determines goals and objectives that need additional emphasis; determine the best approach or solution for resolving budget shortages; and plan for long range staffing needs, including such matters as whether to contract out work. Works closely with high level program officials (or comparable agency level staff personnel) in the development of overall goals and objectives for assigned staff function(s), program(s), or program segment(s).

OR

Exercises at least eight of the following supervisory authorities and responsibilities:

- Uses any of the following to direct, coordinate, or oversee work: supervisors, leaders, team chiefs, group coordinators, committee chairs, or comparable personnel; and/or provides similar oversight of contractors;

- Exercises significant responsibilities in dealing with officials of other units or organizations or in advising management official of higher rank;

- Assures reasonable equity (among units, groups, teams, projects, etc.) of performance standards and rating techniques developed by subordinates or assuring comparable equity in the assessment by subordinates of the adequacy of contractor capabilities or of contractor completed work;

- Directs a program or major program segment with significant resources (e.g., one at a multi-million dollar level of annual resources);

- Makes decisions on work problems presented by subordinate supervisors, team leaders, or similar personnel, or by contractors;

- Evaluates subordinate supervisors or leaders and serving as the reviewing official on evaluations of nonsupervisory employees rated by subordinate supervisors;- Makes or approves selections for subordinate supervisory positions and for work leader, group leader, or project director positions responsible for coordinating the work of others, and similar positions;

- Hears and resolves group grievances or serious employee complaints;

- Reviews and approves serious disciplinary actions (e.g., suspensions) involving non-supervisor subordinates;

- Makes decisions on nonroutine, costly, or controversial training needs and training requests

related to employees of the unit;

- Determines whether contractor performed work meets standards of adequacy necessary for authorization of payment;

- Approves expenses comparable to within-grade increases, extensive overtime, and employee travel;

- Recommends awards or bonuses for nonsupervisory personnel and changes in position classification, subject to approval by higher level officials, supervisors, or others;

- Finds and implements ways to eliminate or reduce significant bottlenecks and barriers to production, promote team building, or improve business practices.

#### **Factor 4A- 3 Nature of Contacts**

Contacts include those that take place in meetings and conferences and unplanned contacts for which the employee is designated as a contact point by higher management. They often require extensive preparation of briefing materials or up to date technical familiarity with complex subject matter. Frequent contacts are comparable to any of the following:

- High ranking military or civilian managers, supervisors, and technical staff at bureau and major organization levels of the agency; with agency headquarters administrative support staff; or with comparable personnel in other Federal agencies;

- Key staff of public interest groups (usually in formal briefings) with significant political influence or media coverage;

- Journalists representing influential city or county newspapers or comparable radio or television coverage;

- Congressional committee and subcommittee staff assistants below staff director or chief counsel levels;

- Contracting officials and high level technical staff of large industrial firms;

- Local officers of regional or national trade associations, public action groups, or professional organizations; and/or State and local government managers doing business with the agency.

**Factor 4B- 3 Purpose of Contacts**

The purpose of contacts is to justify, defend, or negotiate in representing the project, program segment(s), or organizational unit(s) directed, in obtaining or committing resources, and in gaining compliance with established policies, regulations, or contracts. Contacts at this level usually involve active participation in conferences, meetings, hearing, or presentations involving problems or issues of considerable consequence or importance to the program or program segment(s) managed.

**Factor 5- 8 Difficulty of Typical Work Directed**

The highest graded non-supervisory work directed, which requires at least 25% of this position's duty time, is GS-13 or higher, or equivalent.

**Factor 6- 5 Other Conditions**

Supervision and oversight involve significant and extensive coordination and integration of a number of important projects or program segments of professional, scientific, technical, and managerial or administrative work comparable in difficulty to the GS-12 level. Supervision also involves major recommendations that have a direct and substantial effect on the organization and projects managed.

OR

Supervision involves directing a highly technical, professional, administrative or comparable work at GS-13 or above which involves extreme urgency, unusual controversy, or other, comparable demands due to research, development, test and evaluation, design, policy analysis, public safety, public health, medical, regulatory, or comparable implications.

OR

This position manages work through subordinate supervisors and/or contractors who each direct substantial workloads comparable to the GS-11 level.

